

**REMARKS**

The Office Action mailed November 13, 2006 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-25 are now pending in this application. Claims 1-3, 15-17, and 19-25 stand rejected. Claims 4-14 and 18 stand objected to. Claims 1 and 22-25 have been amended. No new matter has been added..

The rejection of Claims 1-3, 15-17, and 19-25 under 35 U.S.C. § 102(b) as being anticipated by Yavuz et al. (U.S. Patent 6,539,074) (“Yavuz”) is respectfully traversed.

“Schofield” is referenced throughout the Office Action in the rejection of the claims. “Schofield” is not of record in the above-identified application. Further, the description of the cited columns and line numbers correspond to Yavuz. Applicants believe the indication of Schofield in the Office Action is a typographical error. If Schofield is relied on in a subsequent Office Action, Applicants respectfully request that such reference be made of record by providing a reference number so that Applicant have ample opportunity to respond accordingly.

Yavuz describes methods and systems for reconstructing multiple slice images. A projection data set includes a plurality of projection views collected at different times and/or view angles, but at a same axial position ( $z_o$ ) (column 9, lines 7-17 and column 10, lines 18-31). Projection sets are selected based on a time delay after an R wave (column 15, lines 50-63, column 16, lines 34-41, and Figures 11A-11C and 13). An operation (1240) specifies the axial positions ( $z_i$ ) at which one or more slice images are to be reconstructed (column 16, lines 22-24). An operation (1250) then completes a reconciliation of axial positions of selected projection data sets with the specified axial positions ( $z_i$ ) for the slice images (column 16, lines 28-31).

Reconstruction of a slice image at a specified axial position entails reconciliation of selected projection view sets at a single specified axial position  $z$  (Figure 15). Reconciliation is between the axial positions at which the projection view of a given set represents an object

and the axial positions at which the stacked slice images are to represent the object (column 14, lines 42-45). Notably, Yavuz does not describe or suggest reordering projections views (acquired at a same z-location) within a same projection set to obtain a synchronized image set.

Claim 1 recites a method for retrospective internal gating. The method includes “acquiring images at multiple z-locations  $z_1 \dots z_n$  and at different times  $t_1 \dots t_n$  at each of the z-locations to obtain a plurality of acquired image sets, each acquired image set including only the images acquired at a single one of the z-locations; and reordering the images within at least one of the acquired image sets to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single one of the z-locations.”

Yavuz does not describe nor suggest a method as recited in Claim 1. More specifically, Yavuz does not describe nor suggest a method including reordering images within at least one acquired image set to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single z-location. Rather, in contrast to the present invention, Yavuz describes reconstruction of slice images by reconciling between axial positions at which projection view of a given set represents an object and axial positions at which stacked slice images are to represent the object. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Yavuz.

Claims 2, 3, 15-17, and 19-21 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2, 3, 15-17, and 19-21 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2, 3, 15-17, and 19-21 likewise are patentable over Yavuz.

Claim 22 recites a computer-readable medium encoded with a program configured to: “acquire images at multiple z-locations  $z_1 \dots z_n$  and at different times  $t_1 \dots t_n$  at each of the z-locations to obtain a plurality of acquired image sets, each acquired image set including only the images acquired at a single one of the z-locations; and reorder the images within at least

one of the acquired image sets to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single one of the z-locations.”

Yavuz does not describe nor suggest a computer-readable medium as recited in Claim 22. More specifically, Yavuz does not describe nor suggest a computer-readable medium encoded with a program configured to reorder images within at least one acquired image set to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single z-location. Rather, in contrast to the present invention, Yavuz describes reconstruction of slice images by reconciling between axial positions at which projection view of a given set represents an object and axial positions at which stacked slice images are to represent the object. Accordingly, for at least the reasons set forth above, Claim 22 is submitted to be patentable over Yavuz.

Claim 23 recites a computer configured to: “acquire images at multiple z-locations  $z_1 \dots z_n$  and at different times  $t_1 \dots t_n$  at each of the z-locations to obtain a plurality of acquired image sets, each acquired image set including only the images acquired at a single one of the z-locations; and reorder the images within at least one of the acquired image sets to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single one of the z-locations.”

Yavuz does not describe nor suggest a computer as recited in Claim 23. More specifically, Yavuz does not describe nor suggest a computer configured to reorder images within at least one acquired image set to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single z-location. Rather, in contrast to the present invention, Yavuz describes reconstruction of slice images by reconciling between axial positions at which projection view of a given set represents an object and axial positions at which stacked slice images are to represent the object. Accordingly, for at least the reasons set forth above, Claim 23 is submitted to be patentable over Yavuz.

Claim 24 recites an imaging system including “a scanner configured to generate attenuation data by scanning an object; and a controller electrically coupled to the scanner,

the controller configured to: acquire images at multiple z-locations  $z_1 \dots z_n$  and at different times  $t_1 \dots t_n$  at each of the z-locations to obtain a plurality of acquired image sets, each acquired image set including only the images acquired at a single one of the z-locations; and reorder the images within at least one of the acquired image sets to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single one of the z-locations.”

Yavuz does not describe nor suggest an imaging system as recited in Claim 24. More specifically, Yavuz does not describe nor suggest an imaging system including a controller configured to reorder images within at least one acquired image set to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single z-location. Rather, in contrast to the present invention, Yavuz describes reconstruction of slice images by reconciling between axial positions at which projection view of a given set represents an object and axial positions at which stacked slice images are to represent the object. Accordingly, for at least the reasons set forth above, Claim 24 is submitted to be patentable over Yavuz.

Claim 25 recites a computed tomography (CT) imaging system including “a radiation source; a radiation detector; and a computer electrically coupled to the source and the detector, the computer configured to: acquire CT images at multiple z-locations  $z_1 \dots z_n$  and at different times  $t_1 \dots t_n$  at each of the z-locations to obtain a plurality of acquired image sets, each acquired image set including only the CT images acquired at a single one of the z-locations; and reorder the CT images within at least one of the acquired image sets to obtain at least one synchronized image set, each synchronized image set including only the CT images acquired at a single one of the z-locations.”

Yavuz does not describe nor suggest a computed tomography (CT) imaging system as recited in Claim 25. More specifically, Yavuz does not describe nor suggest a computed tomography (CT) imaging system including a computer configured to reorder images within at least one acquired image set to obtain at least one synchronized image set, each synchronized image set including only the images acquired at a single z-location. Rather, in contrast to the present invention, Yavuz describes reconstruction of slice images by

reconciling between axial positions at which projection view of a given set represents an object and axial positions at which stacked slice images are to represent the object. Accordingly, for at least the reasons set forth above, Claim 25 is submitted to be patentable over Yavuz.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 15-17, and 19-25 be withdrawn.

Claims 4-14 and 18 are objected to, but were indicated as being allowable "if rewritten in independent form including all of the limitations of the base claim and any intervening claims." Claims 4-14 and 18 depend, directly or indirectly, from independent Claim 1 which is submitted to be in condition for allowance. When the recitations of Claims 4-14 and 18 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 4-14 and 18 likewise are in condition for allowance.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,



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